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IMPERIAL AND ROYAL  
SUPREME COUNCIL OF HYGIENE  
VIENNA, 1891.

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“HANDWRITING IN RELATION TO HYGIENE”

(A PAPER READ AT THE CONGRESS)

By JOHN JACKSON, F.E.I.S., LONDON

“VERTICAL WRITING IN RELATION TO HEALTH

(A REPORT TO THE SUPREME COUNCIL OF HYGIENE)

By PROFESSOR A. REUSS IN OPHTHALMOLOGY  
AND PROFESSOR A. LORENZ IN ORTHOPÆDICS



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# UPRIGHT PENMANSHIP

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THE advantages of Vertical Writing are many and unique. They may be classified under four general heads: (A) Hygienic; (B) Caligraphic; (C) Economic; (D) Educational.

## (A) HYGIENIC

1. THE EYE : Exercising each eye equally, and entailing minimum amount of effort, thus avoiding both weak and short sight.
2. THE CHEST : Demanding an almost erect posture, and consequently entailing no undue pressure.
3. THE SPINE : Necessitating a natural and graceful pose of the body, and entirely avoiding the painful distortions (causing spinal curvature) inseparable from those who write a sloping hand.
4. THE HAND : No abnormal twist of the wrist, and no writers' cramp.

## (B) CALIGRAPHIC

1. MAXIMUM LEGIBILITY : Being demonstrable geometrically and also optically.
2. MAXIMUM INDIVIDUALITY : As the greatest scope for variety is afforded.
3. MAXIMUM UNIFORMITY : The vertical downstroke requiring the minimum amount of imitative ability.
4. MAXIMUM EXCELLENCE : As proved by universal experience.

## (C) ECONOMIC

1. TIME : From 30 to 50 per cent. saving: Vertical Writing being more quickly Written, Read, and Taught than any other style.
2. SPACE : From 40 to 50 per cent. saved, as Vertical Writing is the most compact that can be produced.
3. LABOUR : Vertical Writing is the easiest to write and the easiest to read.
4. EXPENSE : Requiring not only less Time, Space, and Labour, but demanding **about half** the ordinary amount of material used in other systems.

## (D) EDUCATIONAL

1. ORGANIZATION : The writers take up less room, and by their position can be arranged in a more orderly and systematic manner.
2. DISCIPLINE : Talking is more easily detected, and therefore more effectually suppressed. The tendency to jolt and the possibility of nudging one another by sprawling are effectually avoided, and thus much disorder is prevented.

# Seventh International Congress

OF

## HYGIENE AND DEMOGRAPHY

LONDON, 1891.

SECTION IV.: PRESIDENT, J. R. DIGGLE, ESQ., M.A., CHAIRMAN OF THE SCHOOL BOARD FOR LONDON.

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### HANDWRITING IN RELATION TO HYGIENE

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**M**R. PRESIDENT,—I think it was Lord Palmerston who once remarked that “Writing is almost as important as speaking, because every man, whatever his station in life may be, must have constant occasion to convey his thoughts, his wishes, his complaints, his desires in writing; and unless that writing be legible and easily read with the letters well formed so that a person can read that writing without trouble and delay, it fails by disgusting the person to whom it is addressed.” It does not however require the authority of a renowned and eloquent statesman to inform or to assure us of the ever-increasing employment and importance of the caligraphic art. There is no occupation or rank in life into which as a potent factor, as an energising influence, writing does not enter. Whether in the diary and correspondence of the private individual, the recording of the business transactions of the merchant, the literature of the author and scientist, the briefs of the barrister, or the manuscripts of the theologian and ecclesiastic, writing is alike everywhere paramount and universally potential.

But not only is it thus all pervasive in every-day life throughout the civilized world, it rises to even greater prominence and significance in the case of the hundreds of thousands who as secretaries, copyists, or clerks, follow writing as their profession or business, and derive from it their sole means of subsistence. Such individuals are employed the year round for from eight to sixteen hours daily exclusively in clerical work. It is indeed impossible to exaggerate the importance of an art which is pre-eminently the vital principle in the machinery of the Law, the Civil Service, Commerce, Science, and individual as well as international communication.

If we inquire into the origin and development of handwriting, we find it had its birth in an age of semi-barbarism; that at first it consisted of the most inadequate because the most imperfect pictorial representations, which gradually merged into a very crude hieroglyphic as the basis of an incipient alphabet. Subsequently this was modified still further, until ultimately it developed into an equally crude phonetic, the characters in which had little if any scientific meaning or relationship. From the ornate and laboured style of the mediæval period our present Italian style has been evolved, and if we carefully trace this development through its manifold stages and variations, we shall discover that it and they have all been purely responsive to exclusively caligraphic or so-called artistic demands. Pursuing our investigation a step further, the fact is revealed that these caligraphic and artistic demands have been controlled and dictated, not by logical and scientific principles, but by capricious and often conflicting theories.

The Writing and not the Writer has invariably been the supreme



consideration in the growth and perfecting of the art of penmanship. Such and such a style of writing was pronounced to be essential, the correct thing in short, the dictum was accepted, the idea of an appeal was never entertained, and our victimised ancestry were doomed to bow, cringe, and twist under the system of bondage thus established. As to Hygienic principles, these have never been associated, even in a remote degree, with the history of Slanting Writing, which up to quite recent years has reigned unrivalled and undisturbed in our midst.

Indeed physiological requirements have not been recognised, much less urged—at any rate not in England—until within the past few years; and even at the present day not one teacher in fifty would spontaneously admit any possible connection between Hygiene and Handwriting, so defective is the state of education in this matter. That these hygienic principles and physiological requirements are or should be an integral part of any system of penmanship that is accepted by the nation, there cannot be the shadow of a doubt; but we may repeat emphatically, that the existing style of oblique or Slant Writing has been evolved and elaborated independent and in spite of every hygienic and physiological principle. It is not the less remarkable that when the subject of school postures first engaged the attention of the medical faculty the real root of the malady was never for one moment suspected, and that for so long a time it remained undiscovered. Possibly this was after all not unnatural, as the conception of an imperfection in the writing itself would be the last to strike the mind of the inquirer. Hence the various and contradictory conclusions that have been made. First, we were informed the Instruction was at fault. Teachers were indifferent, or not sufficiently careful to inculcate correct postures, it only needed strict attention, efficient supervision, and constant care to remedy the evil. Time and experience however proved the contrary, and then came the crusade against Desks and Seats. The former were too sloping or not sloping enough, the latter were too high or too low, and they were not adjustable, so we got both sliding seats and sliding desks; but, unfortunately, the malady remained, although the old desks had gone. The question of Light next exercised the scrutiny of our experts, and bad light or unsuitable light was made the scapegoat. This theory was almost immediately exploded, and the question being still unsolved remained in abeyance for a brief space.

It is matter for sincere congratulation that subsequent research has proved more successful, that all external and subordinate points have been finally disposed of, and that the “system of writing—of **Sloping** Writing” is the sole subject of investigation. And we are highly gratified to learn that the consensus of opinion finds its expression in the almost unanimous declaration that the “Slant” or “Slope” of the writing is the undoubted cause of the unhealthy and abnormal postures so grievously complained of. For thirty years we have had abundant opportunity for observation and experiment, and we have no hesitation in giving an emphatic confirmation to the medical testimony just alluded to. No matter what pattern desks and seats are in use, or what the light may be, or what the nature of the instruction, whenever the children are required to write in the sloping style their postures will present every possible variety of distortion and abnormality.

I am glad to be able to quote from an article in the weekly Austrian Hygiene, edited by Dr. J. Daimer, Secretary of the Supreme Council of Health in Vienna, a reprint of which was kindly sent me by Professor A. Reuss, and translated by my friend Dr. S. W. Carruthers, after this paper had been forwarded to the secretary.

“The question of School-benches was considered as solved by a correct proportioning to the size of the body, by the introduction of the minimum distance, and the application of so-called back-seats. The question proved



unsolved. Children sat upon the new benches, approved by the faculty, **just as badly as upon the old.**"

The concurrent evidence of a combination of medical experts and specialists from which there can be no appeal, warrants the assertion that the side position of the body is inevitable in sloping writing; that twisting of the neck is equally unavoidable; that distortion of the spine must accompany the side position; that displacement of the right shoulder is a necessary consequence of the arm being pressed close in to the side; that the wrist must be deflected from the natural direction in order to maintain the required slope of the pen; that the side position of the body involves a disturbance of the common action of the two eyes, and that the oblique view thus obtained is more or less delusive; and that sprawling on or over the desks causing pressure on the chest is induced if not also required by the general posture imposed by the slanting writing. We will epitomise the directions given in our own young days, and still prevalent amongst the present generation of teachers, to a writing class.

1. Turn your left sides to the Desks.
2. Press the left arm close in to the side.
3. Place your left hand on the Copy-book.
4. Press your right elbow in to the side.
5. Point your pen towards your right ear.
6. Turn your face towards the book.
7. Grasp the pen firmly and go on writing.)

See p. 5 for comparison of postures demanded by both styles of writing severally.

One involuntarily exclaims, What can be expected from a mode of writing that inflicts such conditions, such contortions as these? The reply is, From the writing our expectations end in disappointment and acknowledged failure, since not twenty out of a hundred specimens of penmanship promiscuously taken are fit to be classed as excellent; and from the ranks of the writers we obtain a vast number of debilitated and deformed victims so seriously afflicted in heart, lungs, spine, or eyes as to create a feeling of apprehension and alarm in medical and educational circles, yea, even in Councils and Cabinets. Eminent medical gentlemen have pursued their investigations into the question of postures with praiseworthy ability and exemplary patience. Whilst teachers have been as a class wholly quiescent, such men as Barnard, Cohn, Coindet, Carpenter, Carter, Guillaume, Leibrich, Von Reuss, Lorenz, Smith, and a host of others, have been indefatigably working, with the outcome of a unanimous pronouncement that all the ills which initiated the inquiry are traced to the postures assumed in and required by the "Slanting Writing" taught in our schools. One writer tells us that "The postures of young people assumed in the sloping writing are one of the chief factors in the production of spinal curvature." A second authority declares these postures to be "without doubt recognisable as one of the most frequent causes of crooked growth."

Were this the only effect it would be more than sufficient to justify a thorough investigation into the whole question; but when equally dismal testimony is borne to the injury of other organs and the interference with other functions, the urgency of the case becomes vital and irresistible. I am not acquainted with any work that so fully exhausts this part of our question as the Reports of Drs. Reuss and Lorenz already alluded to.

The great specific for these abnormal postures, with their train of disastrous consequences, is "Vertical Writing." The material difference between this Upright or Perpendicular Style and Slanting Writing is in the direction of the Down Strokes of the letters: in the former being definitely and absolutely Upright, in the latter indefinitely and variously sloped or oblique. The difference which this slight and seemingly insignificant alteration in the down strokes makes, the effect which it exerts upon the writer is



incredible, and when in conjunction with the minor characteristics of the system, viz., shorter loops, minimum thickness and continuity, the results are almost magical. Before detailing the several Hygienic merits of Upright Penmanship, I would make grateful reference to some of the professional statements of medical men in favour of Vertical Writing. I say grateful reference, for to a teacher who has written the style and advocated its manifold claims to superiority for so many years, who has been met with derision and indifference, with incredulity and opposition, from almost overwhelming columns of prejudiced "Slopers"—it is more than solacing to receive the repeated, the unanimous, and the independent support of a phalanx of medical professors as invincible as it is incontestable. These experts (and in their own department they constitute our only qualified judges) declare that "Vertical Writing is the only system consistent with all Hygienic principles," that "It is impossible for writers to avoid twisting the spine unless they adopt an upright style of caligraphy," that "The absolute superiority of this method of writing over other methods must be recognised," and that "Upright Writing is very much to be preferred to oblique writing."

Now what are the postures or what is the position prescribed in the Vertical Writing? In one word, it is the natural position, the most normal position possible; indeed it is the posture that a pupil will instinctively assume, the attitude that he will naturally adopt in the effort to write vertically. Granted that the book lies evenly on the desk, and that the scholar has been duly instructed how to hold his pen between the thumb and two forefingers, the writer's position is dictated by the style of writing adopted, and he sits evenly and straight before his desk, with both arms thrown freely thereon, the whole posture being the simplest and easiest that could be prescribed for the efficient performance of the work to be done. The eye looks straight down upon its task, the hand, wrist, and arm are in the best posture for a running handwriting, the body is not distressed by artificial posing, the spine rests in a perfectly normal condition, the chest remains unrestrained by any undue leaning forward, and the writing is produced under the most favourable Hygienic conditions with the least expenditure of energy, and therefore with the minimum amount of weariness (see p. 5).

Instead of the oblique position, we have the square or front posture; instead of the head all awry, we have a straight pose, securing an identity or parallelism of the facial and chest planes; instead of the elbows close in to the side, we have them both unrestricted and free; in place of the oblique and consequently delusive view of the book, we secure an even and perfect command of the writing; and instead of the awkward sprawl over the desk, we have the nearly upright position, free from even the tendency towards an unhealthy or painful attitude. It may be safely predicated that since all unnatural positions are precluded from the system, and that only the most natural and easy postures are demanded by it, Vertical Writing in this relation may be accepted as strictly fulfilling every Hygienic requirement.

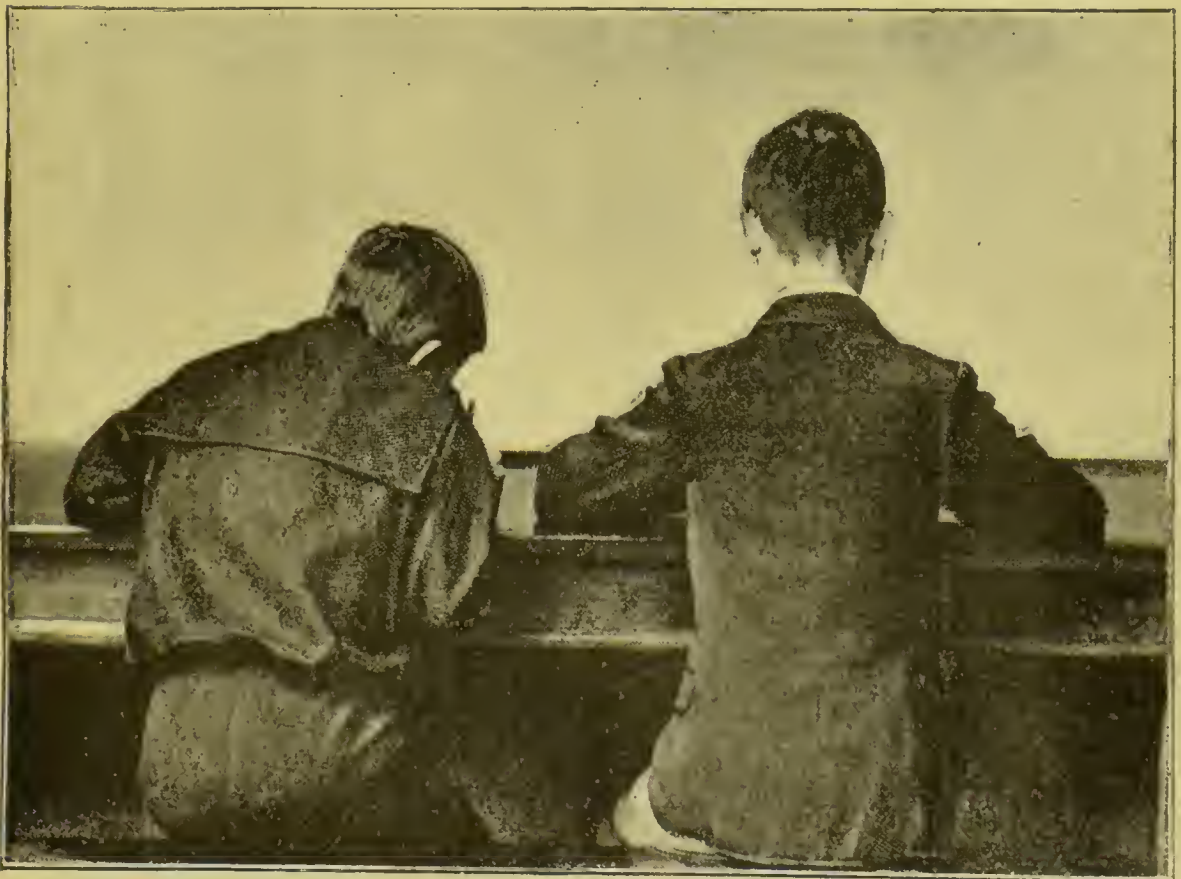
Moreover, from an educational point of view Vertical Writing asserts its Hygienic superiority, if we contemplate its simplicity and the resulting diminution of labour in teaching and acquiring the art. This economy I have frequently demonstrated as amounting to from 30 to 50 per cent. Also when we take into account the advantages it offers us in legibility and speed (in both of which respects it is far ahead of sloping writing), thus securing an immense saving of time and energy in its production and perusal, we are driven to the conclusion that Upright Penmanship is the true penmanship, the **Ultima Thule** of caligraphic ambition giving us the maximum of Hygienic merits with no detracting disadvantages.

A word as to the actual achievements of Vertical Writing recorded in the evidence of numerous teachers in all grades of schools where it has super-



POSITION IN SLOPING WRITING.  
(Front View.)

POSITION IN VERTICAL WRITING.  
(Front View.)



TWISTED POSITION REQUIRED AND TAUGHT  
IN SLOPING WRITING.  
(Back View.)

NATURAL POSITION REQUIRED AND TAUGHT  
IN VERTICAL WRITING.  
(Back View.)



seded the old Italian style. And, let it be remembered, this test of experience is the crucial test which will once for all, and which has once for all, determined the correctness and soundness of theoretical medical experiments and deductions, and of our own educational categorical statements.

We are enabled to say the **Evidence is uniform** and undisturbed by a single conflicting dissentient. Scores and hundreds of contributions of this kind have been received, yielding a magnificent variety of testimony bearing on every possible question in the controversy. Briefly summarized, the evidence goes to show that wherever the Vertical Writing has been introduced it—(A) enkindles a greater interest in the art, both with teachers and children; (B) it entails much less labour in teaching; (C) it wonderfully accelerates the rate of progress and improvement; (D) it attains to a much higher standard of excellence, and develops a much greater command over the pen; (E) it materially increases the speed of the writer; and (F) lastly, it disposes finally and satisfactorily of the awkward and painful postures that have, under the régime of Sloping Writing, created such havoc in, and worked such irreparable mischief to, the juvenile constituency for so many years. Encouraged by these unquestionable facts, by the harmony and concurrence of both Medical and Educational evidence, and the more than commensurate results which have attended its introduction and adoption, one can surely be justified in believing that the day is not far distant when Upright Penmanship shall have the pre-eminence, and when (the relation and inseparable connection of Hygiene and Vertical Writing being universally recognised) it shall not need the protest of a faculty or the dictum of a council to make our people a nation of Vertical Writers, but all shall write vertically in every department of our great empire.

It is therefore, Mr. President, with the most profound and unqualified pleasure that I am thus enabled to submit to this Congress the practical, combined and unanimous experience of hundreds of teachers in support of the finding which so many distinguished members of the Medical Profession in this and other countries have arrived at as the result of their independent and scientific investigations.

The following Resolution, proposed by Dr. KOTELMANN and seconded by Dr. GLADSTONE, Vice-Chairman of the School Board for London, was then put and carried:—

“That as the Hygienic advantages of Vertical Writing have been clearly demonstrated and established, both by medical investigation and practical experiment, and that as by its adoption the injurious postures so productive of spinal curvature and short sight are to a very great extent avoided, it is hereby recommended that Upright Penmanship be introduced and generally taught in our elementary and secondary schools.”

Dr. Kotelmann's paper, read at the same sitting, dealt with the rise, progress, and rapid development of “Steep” writing in Germany and Austria. Reviewing the origin and growth of the art of penmanship, the learned doctor proceeded to show that originally all writing was vertical, and that sloping writing was only a comparatively modern innovation. In the course of his remarks he exhibited a vast number of photographs, diagrams, reprints, and copies illustrating the respective styles, the injurious postures in sloping writing and the natural positions in vertical. In closing, the speaker made special reference to the large amount of German literature favourable to and explanatory of Steep writing, and concluded a very eloquent address by quoting a number of educational authorities and medical specialists on the continent who recommend upright penmanship.



## REPRINT FROM THE WEEKLY JOURNAL

DAS ÖSTERREICHISCHE SANITÄTSWESEN (THE AUSTRIAN HYGIENE),

ORGAN FOR THE PUBLICATIONS OF THE IMPERIAL AND ROYAL SUPREME COUNCIL OF HEALTH  
 EDITED BY DR. J. DAIMER, SECRETARY OF THE SUPREME COUNCIL OF HEALTH.

OPINION ON THE ADVANTAGES OF VERTICAL WRITING IN RELATION TO  
 HEALTH.

WITH reference to the Protocol of the Supreme Council of Health published in No. 8 of this paper, we call attention to the opinions of the specialists called in by the Supreme Council of Health to investigate the effect of vertical writing upon the attitude of the body, and the checking of defects of sight—Professor A. Reuss, in Ophthalmology, and Professor A. Lorenz, in Orthopædics.

## A. OPINION IN RESPECT OF OPHTHALMOLOGY.

For years the "school bench" question occupied medical men and teachers. Shortsightedness and curvatures of the spinal column continually increased in number and degree, and called for preventive measures. The question of school benches was considered as solved by a correct proportioning to the size of the body, by the introduction of the minimum distance, and the application of so-called back-rests. The question proved unsolved. Children sat upon the new benches, approved by the faculty, just as badly as upon the old. Certain of the specialists now sought still further to improve the bench. They wished to counteract the injurious bending forward of the body during writing by a high sloping back, and by a compulsory (though to the scholar unconscious) introduction of the reclining position in sitting. Unfortunately there was up to this time no practicable mechanism invented, for the construction of a suitable adjustable desk for a sufficiently reclining position. This question also delayed the solution, and the newest benches, which are at present constructed upon the principles laid down in the School-bench Inquiry of the Vienna Common Council, are merely makeshifts towards a solution of the question by mechanicians.

But even after the solution of this question, it will be doubtful whether the benches, correctly built in theory, will in practice commend themselves, as we have already on one occasion experienced the contrary.

It would also be thankworthy, if other specialists employed themselves about studying the other influences on the scholar's attitude, which are not in direct connection with the school benches.

To the oculist and to the surgeon it was always evident that the position of the head in writing exercises a powerful influence on the whole attitude of the body, and that an abnormality in the attitude of the head, which is at first apparently unimportant, soon brings in its train a very erroneous position of the whole body.

It was now found that in reading we always turn the head, so that the base-line of the eyes (that is, the line connecting the axes of the two eyes) if prolonged to meet the surface of the page, corresponds to the direction of the

lines of print. Further, in writing it will usually be seen that the ground-strokes of the letters stand perpendicular or approximately perpendicular to the prolongation of the base-line of the eyes. The direction of the lines of writing, and the angle which the ground-strokes make with the line, influence considerably, therefore, the attitude of the head and of the whole body.

But even here there soon appears a difference between theory and practice. People thought, that if only the ground-strokes came to be perpendicular to the edge of the table, the base-line of the eyes must needs remain parallel to this edge, and so the whole body exhibit an upright position.

But this was not invariably so. In the so-called oblique middle position of the copy-book, the above postulate was fulfilled, and yet the children sat awry. It became manifest that the direction of the lines exercised a great influence on the attitude of the body, and that the school children placed the base-line of their eyes parallel to the edge of the table, when the lines also ran parallel to it, provided that a turning of the head was not necessitated by the obliquity of the letters, that is, provided the ground-strokes stand upright on the lines, or in other words that vertical writing is used.

To Head-master Dr. Bayr we owe the service of having first proved by experiment on a large scale, the correctness of the theoretical considerations we have just briefly stated. They triumphantly furnished the proof. The position of the scholars in vertical writing is an exemplary one: the head is but slightly bent, and remains—which is, to the oculist, the most important point—at a suitable distance from the desk: and therewith the whole body also preserves a correct attitude.

The benches on which these experiments took place, were not such as to exercise especially favourable effect on the attitude, and it is seen that the same scholars, who sat correctly in vertical writing, at once assumed the faulty attitude which is found in all schools during writing, as soon as they wrote a sloping hand. In fact, it could easily be recognized by the attitude of the body in which style they were writing, when part of the pupils were instructed to write sloping and part upright.

One must, however, at once meet an objection which was made on the part of a teacher. "If in a school," says he, "one subject is cultivated so much beyond others, as caligraphy is with Herr Bayr, and if the attitude of the body is so closely supervised as by him, then it is no wonder that the children sit upright. It must not be forgotten that, girls especially, when these experiments are carried out, easily exaggerate involuntarily the faulty attitude of body in oblique writing. Moreover, the pupils, if they do not wish to be in the way with their pen when reading, are forced to a position of the hand in which they can write only roundhand, or Roman hand: therefore the introduction of vertical writing will be equivalent to the introduction of round hand by the exclusion of the present current hand: the latter is however a national peculiarity," and so on. One sees with what peculiar opinions sanitary questions can be judged.

A reply is necessary, because this solitary voice apparently represents the opinion of a whole party.

Before everything it must be mentioned that the bad position of pupils in oblique writing, as it was observed in the school of Herr Bayr, differs as little in character as in degree from the usual writing position, as can be observed at any time, in any school, and, as has been observed, since special attention was given to the bodily attitude of pupils. A warning from the teacher improves the position for a few minutes, but quite spontaneously the oblique position soon returns.

Even if the continual upright position during the practice of vertical writing were only the result of a firm discipline, it would be a circumstance in



favour of this handwriting. Moreover, in other schools, where no attention is given to the position of the ground-stroke—in which, on the contrary, the principle of leaving the slant of the letters to the fancy of the pupil holds good—it was observed that individual scholars who had a specially correct attitude wrote in upright fashion, or nearly so; and here any special oversight of these pupils was completely excluded.

If in vertical writing (but this is beyond the province of the medical man to investigate) the Roman hand alone is possible, and if the introduction of the former is equivalent to a monopoly for the latter, this can only be hailed with gladness by medical men.

By the dropping of one alphabet (there are really two now written and printed), an important relief would be afforded to the pupil, and therewith also would disappear a national peculiarity which compels the Germans, in distinction to other nations, to allow their children's eyes to undergo a double strain.

Were one to prove the value of a correct position of the head from an oculist's point of view, this would be going much too far, and, besides, would be superfluous; for one cannot consider the defence of a position which no one attacks.

This only shall be stated, that vertical writing makes it possible to prescribe spectacles for pupils who are already short-sighted, without the subsequent fear that this will help the increase of short-sightedness, through an incorrect position of the head; and thereby a question is solved, which before the definite construction of correct benches for normal-sighted pupils could not once have been propounded.

That vertical writing necessitates another form of copy-book—that is, shorter lines, owing to the necessarily wider separation of the arms—is a very unimportant matter; and one must in this, as in many other respects, realize the fact that, while vertical writing is with us an unusual thing, it is, as far as I know, a usual thing in England and America.

It is, therefore, strongly recommended that the Imperial and Royal Supreme Council of Health would support to the utmost the endeavours towards a general adoption of vertical writing.

## B. OPINIONS IN RESPECT OF ORTHOPÆDICS.

At the request of Herr Bayr, conductor of the City Public School in Vienna (15, Kopernikusgasse), the Commission, composed of Messrs. Councillor Kusy, Councillor of Health Albert, and the experts, Messrs. Von Reuss, Gouber, and Lorenz, met in the afore-named school building, to undertake an inspection of the children who were using the upright style of writing.

In the report now presented, the theoretical grounds which were alleged on behalf of the direct middle position of the copy-book, and against the oblique middle position, will not be stated; for this question has already repeatedly been exhaustively stated. It must, however, be said that the results of the latest researches in this field (the eminent work of the oculist, Dr. Schubert, of Nurnberg, is here specially referred to) speak, without exception, in favour of vertical writing.

The problem before the Commission consisted simply in this: to see in use the system of vertical writing introduced methodically by Herr Dr. Bayr into the institution under his charge, and especially to observe its influence on the attitude of the children while writing.

In this connection it must be stated that the members of the Commission have unanimously carried away the best impression of the correctness of attitude of the children who write the upright hand. By the arrangement made—the children on the benches on one side of the schoolroom writing



the customary oblique hand, those on the benches opposite, on the contrary, the upright hand—the extraordinarily favourable impression which the attitude of the vertical writers made was rendered much more impressive and important.

The aforesaid correct attitude of body of those children who used vertical writing showed itself, without any influence whatever on the part of the superintending teacher, so characteristic and so constant, that in a second class, where children who wrote upright and those who wrote obliquely were grouped quite irregularly, the members of the Commission were able, even from a distance—and more easily upon a close view, especially from behind—to distinguish the two groups one from another.

Further, it was evident that also for rapidity of writing the children in some degree accustomed to vertical writing were in no way behind those who wrote obliquely.

It deserves special mention that the children use for vertical writing no specially made pens (as was stated in many quarters), but, with the usual and customary instruments, wrote a hand which was as pleasing as it was clear and legible. Specimens of it were submitted to the Commission.

It was remarkable that the vertical writers showed a permanently upright position of the head. In the oblique writers, even if the position of the head was good at the beginning of the work, gradually in the course of the writing lesson there appeared a marked tendency to bend the head to the left. The position of the head is affected in a recognisable degree by the direction of the lines of writing; and since these run parallel to the edge of the desk in vertical writing, the necessity of turning the head to the left is done away with for the child who writes upright; whereas the oblique writer is, to some extent, compelled to turn his head, owing to the lines ascending towards the right.

A correct position of the head must be recognized as the primary essential of a good position in writing. Each side turning of the head is necessarily followed, owing to the changing of its weight, by lateral movements of the vertebral column, whose frequent return, with longer duration each time, is without doubt recognizable as one of the most frequent causes of crooked growth.

Quite apart from all other advantages, and even in spite of numerous small disadvantages of vertical writing—for example, the necessity of moving the whole arm laterally as one progresses along the line, and especially the necessary shortness of the lines, &c.—the absolute superiority of this method of writing over other methods must be recognized, for the children who use it are not in the least compelled to any lateral bending of the head, owing to the kind of manipulation used in what we may call their professional work.

The practical employment of vertical writing corroborates the theoretical inference that it does not, by the method and manner of practising it, conceal within itself the necessity and compulsion to an oblique position of sitting, and consequently to a crooked growth.

Given rightly-proportioned seats—and especially back-rests, which are rightly constructed and available also in the writing position, by means of which the fatigue which necessarily and unavoidably follows each position of sitting is most practicably held in check—vertical writing is very much to be preferred, from the orthopædic point of view, to oblique writing, and has been recommended for a long time by many orthopædic surgeons in private practice, with the best results, for rendering the writing position a healthy one.



# OPINIONS

FROM

## CLERGYMEN, INSPECTORS, AND TEACHERS

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"The Upright style is in every way an improvement. It is neater, clearer, and easier."—F. W. AVELING, B.A., B.Sc., Independent College, Taunton.

"Mr. JACKSON'S system of Vertical Writing introduced into this college continues to be productive of excellent results."—Dr. CASARTELLI, St. Bede's Coll., Manchester.

"The easiest to teach and learn."—W. WILKINS, M.A., High Sch., Dublin.

"Since adopting your system of Vertical Writing last term I can already note very considerable improvement in the standard of excellence generally, and only regret I did not know of it before."—(Rev.) H. G. NIND, M.A., Rector, Reading.

"The results have been most satisfactory in every respect. . . . Our teachers are quite enthusiastic as to its suitability for educational purposes. Its appearance speaks for itself."—(Rev.) W. L. APPLEFORD, M.A., Lancaster.

"I consider your new numbers valuable additions to the series."—J. C. WITTON, B.A., B.Sc., Gram. Sch.

"We have used your books ever since they were first issued, with very good results."—W. LEACH-LEWIS, Margate Coll., Kent.

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Reduced Facsimile of page 19 in Copy-book (winning First Prize £5, Imperial Competition in Jackson's New Style Vertical Writing Copy-Books, 1887), written by Ernest Fryer (14), St. Luke's School, Gloucester.

19



This specimen, it may be observed, is the outcome of about six months' practice. Such uniformity and imitation have never been surpassed, if indeed ever approached, by any system of sloping writing, the legibility and regularity being equally perfect. The book from which the above page has been photographed contains no less than Three Hundred and Twelve written lines, every page exhibiting the same admirable qualities. It is gratifying to learn from letters continually arriving that wherever introduced the system is still achieving the same excellent results: quickened interest, stimulated effort, and much superior writing follow the adoption of the books in schools of all grades.